IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

FILED

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WESTERN DISTRICT OF TEXAS
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CROSSROADS SYSTEMS, INC.,	§	
	§	
Plaintiff,	§	
	§	CIVIL ACTION NO. 1:10-CV-652-SS
v.	§	
	§	JURY DEMANDED
	§	
(1) 3PAR, INC.,	§	
(2) AMERICAN MEGATRENDS, INC.,	§	
(3) RORKE DATA, INC.,	§	
(4) D-LINK SYSTEMS, INC.,	§	
(5) CHELSIO COMMUNICATIONS, INC.,	§	
(a Delaware Corporation),	§	
(6) ISTOR NETWORKS, INC., and	§	
(7) CHELSIO COMMUNICATION, INC.,	§	
(a California Corporation),	§	
	§	
Defendants.	§	

PLAINTIFF CROSSROADS SYSTEMS, INC.'S
MARKMAN BRIEF

TABLE OF CONTENTS

TABLE OF AUTHORITIES

CASES   **Page**

I.   INTRODUCTION

Crossroads Systems, Inc. ("Crossroads") presents this brief in support of its proposed claim construction of claim terms in United States Patent No. 6,425,035 (the "'035 Patent") and United States No. 7,051,147 (the "'147 Patent") (collectively the "Patents-In-Suit"), each entitled "Storage Router and Method for Providing Virtual Local Storage." The Patents-In-Suit are continuations of United States Patent No. 5,941,972 (the "'972 Patent").[1]

Almost all of the claim terms at issue in the present case have been construed by this Court in previous related cases involving the '972 Patent and the '035 Patent. *See* Declaration of Elizabeth Brown Fore ("Fore Decl."), ¶33, Ex. EE, Chart of Disputed Claim Terms.[2] Crossroads' proposed constructions for the disputed claim terms uniformly adopt this Court's prior constructions. Defendants, on the other hand, have rejected **all but one** of the constructions historically provided by this Court. This treatment of this Court's past claim constructions by the Defendants disregards one of the Supreme Court's stated concerns in *Markman v. Westview Instruments*, Inc., 517 U.S. 370, 390 (1996); namely, the need for consistent claim constructions with respect to a patent. Indeed, the Supreme Court recognized "the importance of uniformity in the treatment of a given patent" because "the public [would] be deprived of rights supposed to belong to it, without being clearly told what it is that limits these rights." *Markman*, 517 U.S. at 390 (citing *General Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 369 (1938) and *Merrill v. Yeomans*, 94 U.S. 568, 573 (1877)). The Supreme Court in *Markman* went on to say:

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[1] The primary difference between the patents is that the parent '972 Patent claims specifically recite that the first transport medium is Fibre Channel and the second transport is SCSI, the '147 Patent claims specifically recite that both transports are Fibre Channel, while the '035 Patent claims do not recite any protocol limitations on the first and second transport media. The majority of the claim terms at issue are identical between the Patents-In-Suit.

[2] The Court construed the '972 Patent in *Crossroads Systems, (Texas), Inc. v. Chaparral Network Storage, Inc.*, Civil Action No. A-00-CA-217-SS (the "Chaparral Litigation") and construed both the '972 Patent and the '035 Patent in *Crossroads Systems (Texas), Inc. v. Dot Hill Systems Corporation*, Civil Action No. A-03-CA-754-SS (the "Dot Hill Litigation").

> [T]reating interpretive issues as purely legal will promote (though it will not guarantee) intrajurisdictional certainty through the application of *stare decisis* on those questions not yet subject to interjurisdictional uniformity under the authority of the single appeals court.

Id. at 391 (emphasis added). *Stare decisis* teaches that determinations involving the same legal question presented under similar circumstances should not ordinarily be reconsidered absent manifest unfairness. *Sears Petroleum & Transport Corp. v. Archer Daniels Midland Co.*, No. 5:03-CV-1120, 2007 WL 2156251 at *8 (N.D.N.Y. Jul. 24, 2007) (emphasis added). Defendants' proposed constructions of the claim terms "remote," "access controls," and "map" simply rehash old arguments *previously rejected by this Court*, and therefore should be rejected once again. *Collegenet, Inc. v. XAP Corp.*, No. CV-03-1229, 2004 WL 2429843 at *6 (D. Or. Oct. 29, 2004) (applying *stare decisis* and re-adopting its prior claim constructions); *KX Indus., L.P. v. PUR Water Purification Prods.*, 108 F. Supp. 2d 380, 387 (D. Del. 2000) (applying *stare decisis* and re-adopting prior claim constructions).

Courts have further recognized that to further the Supreme Court's mandate to maintain uniformity in the treatment of a given patent, "***considerable deference*** should be given to [prior rulings construing the same patent terms] unless overruled or undermined by subsequent legal developments . . . ." *Sears Petroleum & Transport Corp.*, 2007 WL 2156251 at *8 (citing *Collegenet, Inc.*, 2004 WL 2429843 at *6); *Iovate Health Scis., Inc. v. Allmax Nutrition, Inc.*, 639 F. Supp. 2d 115, 124 (D. Mass. 2009) (applying "reasoned deference" to previous construction of different district court). The Court should reject Defendants' proposed constructions that reintroduce old, previously rejected arguments, and giving considerable deference to its own prior constructions, should adopt Crossroads' proposed constructions, which

2

adopt this Court's prior constructions and maintain uniformity.[3]

II.   SPECIFIC TERMS

A.   Remote

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent 1, 11 '147 Patent 1, 4, 10, 13, 14, 15, 17, 18, 19, 21, 28, 34	**Remote** Indirectly connected through at least one serial network transport medium.	**Remote** Connected through network interconnects and located at a relatively large distance.

Crossroads' proposed construction is identical to this Court's prior construction of the term "remote" and is fully supported by the specification. *See* Fore Decl., ¶18, Ex. P, Dot Hill Markman Order, pp. 3 - 14. Defendants' proposed construction re-plows old ground by substituting the requirement of a "serial" network transport medium with the subjective limitation that "remote" means "located at a relatively large distance." This Court previously expressly rejected defining "remote" using distance-based metrics due to the fact that such a definition is imprecise and does not provide sufficient clarity for the jury.

1.   "Indirectly Connected" And "Serial" Are Supported.

In the specification, the term "remote" is used to contrast the idea of "local" connections, such as local storage that is connected directly to a workstation through a parallel bus connection. Col. 1, ll. 21-48.[4] The specification makes clear that "remote" storage can be accomplished using a "serial" network transport interconnect, an example of which is the Fibre

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[3] Consistent with the definition adopted in *Dot Hill*, Crossroads submits that one of ordinary skill in the art in the context of the Patents-In-Suit would have a B.S. in electrical engineering or the equivalent and at least three years experience with computer data storage and networks, or an M.S. or Ph.D. in electrical engineering or the equivalent and at least one year experience with computer data storage and networks. *See* Declaration of John Levy, Ph.D., ("Levy Decl."), ¶22.

[4] All column:line number cites herein are to the '035 Patent. The specification of the '035 Patent is identical to the specification of the '147 Patent although the column:line numbers are different between the two patents.

Channel serial transport. Col. 1, ll. 28-35 (high speed serial interconnects allow remote storage, where "[o]ne such serial interconnect is Fibre Channel"); Col. 1, ll. 62-66; Col. 3, line 63-Col. 4, line 6 (describing "Fibre Channel high speed interconnect" embodiment connecting physically remote storage). The specification further makes clear that "remote" storage devices are "indirectly connected" though an intervening device. Col. 1, ll. 49-51 ("remote" storage connected through a network server); Col. 3, line 64-Col. 4, line 6 ("remote" storage "bridged" by a storage router); Col. 4, ll. 43-53 (physically "remote" storage connected through a storage router).

2.   Distance-Based Proposal Was Previously Rejected.

While Defendants appear to agree that "remote" is indirectly connected over a network transport (i.e., Defendants' use of "connected through network interconnects"),[5] Defendants propose re-writing the Court's *Dot Hill* construction by omitting "serial" and substituting "located at a relatively large distance." Crossroads agrees with Defendants that the ability to achieve large distance separation between hosts and storage is one aspect of "remote." Col. 2, ll. 26-32. In fact, in the *Dot Hill* Litigation, Crossroads initially proposed that "remote" be construed to mean "something (such as a workstation) is indirectly connected to and **capable of significant physical separation** from a second item (such as a storage device)." *See* Fore Decl., ¶32, Ex. DD, Crossroads *Dot Hill* Markman Brief, p. 19 (emphasis added). However, during the

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[5] If, however, like the defendants in *Dot Hill*, Defendants intend "network interconnects" to encompass *parallel* busses, the specification clearly differentiates traditional, "local" storage transport mediums, such as a parallel SCSI bus, from network interconnects. Col. 1, ll. 23-31, 47-49. In fact, the Court in *Dot Hill* rejected the idea that a parallel bus, such as a parallel SCSI bus, is encompassed within the term "remote." *See* Fore Decl., ¶18, Ex. P, *Dot Hill* Markman Order, pp. 8, 11. Even Defendants' own proposed definition recognizes that "remote" requires the capability for "relatively large distance" separation between workstations and remote storage, which is consistent with the specification where the separation can be, for example, "even in excess of ten kilometers." Col. 2, ll. 30-32. These large distance separations simply cannot be accomplished using parallel busses such as a SCSI bus. Levy Decl., ¶25.

Markman hearing, Special Master Bayer recognized that a distance-based construction made a

determination of "remote" difficult:

> Mr. Bayer: If an engineer of ordinary skill in the art in 1996 or 7 wanted to put a
> tape measure to how far away it had to be, what's that distance? What's that
> engineer going to measure . . . what does significant mean in terms of centimeters,
> millimeters, any other way you want to measure it . . .
>
> Witness: Actually, you know, I admit that there's a difficulty in defining-putting
> numbers on what's remote and what is appropriate distance. That's a-
>
> Mr. Bayer: It's kind of what this is all about . . .

Fore Decl., ¶17, Ex.O, *Dot Hill* Markman Transcript 71:19-72:9. Here, Defendants' construction

presents precisely the same problem by requiring a juror to determine when "remote" storage is

located at "a relatively large distance."

In light of this problem, after multiple briefings and argument, Special Master Bayer

independently proposed the claim construction (now offered by Crossroads) for "remote" that

includes a "serial" network transport, rather than using a subjective reference to distance. *See*

Fore Decl., ¶16, Ex. N, Special Master's Proposed Construction of Disputed Terms, p. 10. This

construction of "remote" requiring a "serial" network transport is fully supported by the

specification where, in every example described, the ability to connect to storage over large

distances is provided by a serial transport medium. Col. 1, ll. 28-35; Col. 1, ll. 62-66; Col. 2, ll.

1-7; Col. 2, ll. 26-38; Col. 3, ll. 37-42; Col. 3, line 63-Col. 4, line 6; Col. 5, ll. 33-40; Col. 6, ll.

19-57. Judge Sparks subsequently adopted Special Master Bayer's recommended construction

of "remote," devoting over ten pages of the *Dot Hill* Markman Order to discussing why this

construction is appropriate. *See* Fore Decl., ¶18, Ex. P, *Dot Hill* Markman Order, pp. 3-14.

Re-adoption of a construction of "remote" that includes both "indirectly connected" and

"serial network transport medium" maintains uniformity in the construction, addresses the need

for a network connection, properly excludes parallel busses from the definition of network and

acknowledges the capability for large distance separation, while providing the jury a construction

that allows for an objective evaluation of infringement. *See Datamize, LLC v. Plumtree Software,*

Inc., 417 F.3d 1342, 1350 (Fed. Cir. 2005) ("the scope of claim language cannot depend solely

on the unrestrained, subjective opinion of a particular individual purportedly practicing the

invention. . . . Some objective standard must be provided. . . .")

B.   Implementing Access Controls For Storage Space On The (Remote) Storage Devices (Access Controls; Control Access) [6]

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent 1, 7, 8, 10, 11 (implementing access controls) **'147 Patent** 1, 6, 7, 9, 10, 21, 22, 24, 26, 28, 34 (access control(s) 14, 21 (control access)	**Implement(ing)(s) access controls for storage space on the (remote) storage devices** Provides controls which limit a device's access to a specific subset of storage devices or sections of a single storage device. **Access Controls** Controls which limit a device's access to a specific subset of storage devices or sections of a single storage device. **Control Access** To limit a device's access to a specific subset of storage devices or sections of a single storage device.	**Implement(ing)(s) access controls for storage space on the (remote) storage devices** Does not need to be separately construed. **Access Controls** Controls that use a map to permit a particular device to read data from or write data to a particular storage space assigned to the device, and to prevent the device from reading data from or writing data to storage space assigned to other devices. **Control Access** Use a map to permit a particular device to read data from or write data to a particular storage space assigned to the device, and to prevent the device from reading data from or writing data to storage space assigned to other devices.

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[6] Crossroads proposes construing "implement(s) access controls for storage space on the (remote) storage devices" (as opposed to "access controls" by itself, as proposed by Defendants) for consistency because this is how the term was previously construed by the Court.

This Court has previously construed "implementing access controls . . ." as proposed by Crossroads, and this construction is supported by the specification. Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order at 15. The primary problem with Defendants' proposed construction of "access controls" is that it vitiates an embodiment in the specification and improperly prevents storage space from being shared between devices connected to the storage router, an argument that has been previously rejected by this Court.

1.   "Access Controls" Is Entitled To Broad Construction.

Crossroads' proposed construction of "implementing access controls . . ." is fully supported by Figure 3 and its accompanying description which describes how "access controls" are implemented. Col. 3, ll. 7-59. In particular, each workstation 58 of Figure 3 is shown and described as being permitted access to certain storage space:

> As shown in FIG. 3, for example, storage device 60 can be configured to provide global data 65 which can be accessed by all workstations 58. Storage device 62 can be configured to provide partitioned subsets 66, 68, 70 and 72, where each partition is allocated to one of the workstations 58 (workstations A, B, C and D). These subsets 66, 68, 70 and 72 can only be accessed by the associated workstation 58 and appear to the associated workstation 58 as local storage accessed using native low level, block protocols. Similarly, storage device 64 can be allocated as storage for the remaining workstation 58 (workstation E).

Col. 4, ll. 17-27. When holding Crossroads' proposed construction supported in *Chaparral*, the Court stated, "Figure 3 expressly shows that the plaintiff's invention contemplates using 'access controls' for ***an entire, undivided storage device*** as well as for the divided subsections within a single storage device" and Figure 3 "***supports a broad reading*** of [the phrase implements access controls . . . .]" (emphasis added). Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order at 4; *see also, Phillips v. AWH Corp.,* 415 F.3d 1303, 1315 (Fed. Cir. 2005) (citing *Vitronics Corp. v.*

Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996), specification is "highly relevant" and, "[u]sually, it is dispositive" as to claim term meaning).

2.   Defendants' Construction Excludes Shared Storage Despite Embodiment In Patents.

Under Defendants' construction, a workstation cannot "[read] data from or [write] data to storage space assigned to other devices." Defendants' construction means that storage allocated to a single workstation could only be accessed by that single workstation – in other words, no shared storage space is allowed by the invention.[7] This construction is unsupported and vitiates the embodiment of Figure 3 because the embodiment shown in Figure 3 describes storage space "assigned" to one workstation that remains accessible by "other" workstations.

As shown in Figure 3, "global storage 65" is storage space on storage device 60 that is part of the storage that is presented by storage router 56 to workstations 58 as virtual local storage.

> . . . storage router 56 has enhanced functionality to implement security controls and routing such that each workstation 58 can have access to a specific subset of the overall data stored in the storage devices **60**, **62** and **64**. This specific subset of data has the appearance and characteristics of local storage and is referred to herein as **virtual local storage**.

Col. 4, ll. 7-13 (emphasis added); *see also*, Col. 4, ll. 50-53. These specific subsets (i.e., virtual local storage) are allocated to each of the workstations 58 by the storage router 56, where each workstation can only have access to the storage allocated to it. Col. 4, ll. 13-16, 17-27, 33-35. Specifically, for the embodiment of Figure 3, global storage 65 on storage device 60 is accessible by every workstation 58 because global data 65 has been allocated to every workstation 58.

> As shown in FIG. 3, for example, **storage device 60** can be configured to provide **global data 65 which can be accessed by all workstations 58.**

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[7] Defendants further imply storage can only be accessed by a single workstation by proposing "access controls" means to "permit **a particular device** to read data from or write data to **a particular storage space**" (emphasis added).

Col. 4, ll. 17-19 (emphasis added). Therefore, despite the fact that global storage space 65 on storage device 60 has been assigned to Workstation A, this storage space can still be accessed by "other" workstations (i.e., Workstations B-E). Thus, any construction of "access controls" that requires storage space to be allocated to and accessed by only a single workstation is clearly erroneous and would contradict and read Figure 3 out of the patents. *See Vitronics Corp.*, 90 F.3d at 1583 (a construction that excludes an embodiment is "rarely, if ever, correct.")

3.   Court Has Previously Rejected "No Shared Storage."

This Court has previously rejected a proposed construction that required the storage space be accessible by only a single workstation. In *Chaparral*, the defendants proposed that the phrase "allocation of subsets of storage space to associated Fibre Channel devices, wherein each subset is only accessible by an associated Fibre Channel device" in dependent Claim 2 be construed to require "one or more partitions that are only accessible by a **single** Fibre Channel device." (emphasis added). Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order at 6-7. The Court rejected this construction and refused to construe this dependent claim such that a particular subset of storage could only be accessed by a single workstation. Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order at 3-7.

C.   The "Native Low Level Block Protocol" Terms

Each independent claim of the Patents-In-Suit includes the following phrase (or similar): "allow access from devices connected to the first transport medium to the storage devices using native low level, block protocol." *See, e.g.,* Claim 1, Col. 9, ll. 27-30. Historically, this Court has construed the terms "allow access" and "native low level block protocol" separately. Crossroads proposes doing so again and adopts this Court's prior constructions for these terms. Defendants confusingly propose interpreting this phrase as *seven* distinct terms.

1.   NLLBP.

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent 1, 7, 11 '147 Patent 1, 6, 10, 14, 21, 28, 34	**Native Low Level Block Protocol(s)** A set of rules or standards that enable computers to exchange information and do not involve the overhead of high level protocols and file systems typically required by network servers.	**Native** Designed for use with a specific type of storage device. **Block Protocol** A set of rules or standards for exchanging information with a block-oriented storage device. **Low Level ... Protocol** A set of rules or standards that enable computers to exchange information without involving network servers, Ethernet networks, or higher-level protocols such as TCP/IP, Ethernet protocols, network protocols or file system protocols.

As an initial matter, the parties disagree as to whether NLLBP should be construed as a single term or in parts. Crossroads proposes "native low level block protocol" (referred to herein as "NLLBP") should be defined as a single phrase identically to the prior constructions of NLLBP adopted in previous cases. Fore Decl., ¶¶14, 15, 34, Exs. L at 16, M at 6 & FF at 1. This position is supported by the '035 Patent specification which uses the term NLLBP no fewer than a dozen times, and in every single instance it is a single, combined term. *See* Abstract; Col. 1, line 44; Col. 2, ll. 13-14, 26; Col. 3, ll. 17, 22-23, 53, 63; Col. 4, ll. 4-5, 25; Col. 5, line 3; Col. 9, ll. 29-30; Col. 10, line 10; Col. 10, ll. 48-49. In fact, there is not a single instance of the use of the Defendants' proposed claim terms "native," "low level . . . protocol" or "block protocol" outside of their use as part of the term "NLLBP," indicating that the inventors of the '035 Patent intended NLLBP to be a single term with a single meaning. *See Network Commerce, Inc. v. Microsoft Corp.*, 422 F.3d 1353, 1360-61 (Fed. Cir. 2005) (rejecting construction of "download component" combining individual constructions of "download" and "component" when phrase as a whole had a meaning in specification).

Crossroads' proposed construction is further supported by the specification, which points out that NLLBPs do not involve the additional overhead of high level network protocols or file systems (that were required in prior art systems to process file system commands in order to allow access to storage) that slow down the process. Col. 3, ll. 16-23; Col. 1, ll. 42-53. Levy Decl., ¶31. In fact, Crossroads' proposed construction of NLLBP is nearly a direct quote from the patent:

> [t]his is accomplished without limiting the performance of workstations 58 because storage access involves **native low level, block protocols** and **does not involve the overhead of high level protocols and file systems required by network servers.**

Col. 5, ll. 1-5 (emphasis added). Thus, as proposed by Crossroads and adopted by this Court historically, an NLLBP is a set of rules or standards that "do not involve the overhead of high level protocols and file systems typically required by network servers." In other words, NLLBPs do not have the high overhead that gets in the way when prior art systems process higher level protocols and file systems in order to access storage. *Id.*; Col. 3, ll. 16-24. Levy Decl., ¶33.

While Defendants appear to agree that an NLLBP is a protocol that does not have the overhead of high level protocols and file systems, Defendants express this idea in a manner that conflates what an NLLBP **is** with how an NLLBP is **used** (i.e., "without involving network servers, Ethernet networks, or higher-level protocols such as TCP/IP, Ethernet protocols, network protocols or file system protocols.") For example, under Defendants' proposed construction, a storage protocol such as SCSI would be interpreted to be an NLLBP in one circumstance (e.g., when used by a workstation to access its local storage), but not in another (e.g., when used by a network server to access its local storage). Levy Decl., ¶34. This expressly contradicts the specification that describes "network servers" communicating with locally attached storage using NLLBPs. *See* Col. 3, ll. 21-23 (prior art "network server 14

11

communicates with [local] storage devices 20 via native low level, block protocols.") Defendants' proposed construction of NLLBP should be rejected because it conflicts with the specification and because whether or not a protocol is an NLLBP does not change based on the "involvement" of particular devices or network protocols. *See British Telecomms. PLC v. Prodigy Commc'ns Corp.*, 189 F. Supp. 2d 101, 124 (S.D.N.Y. 2002) (rejecting proposed construction of "remote terminal" that described "how remote terminals are used in the invention" because "the ultimate use of the device is not an integral part of what it is.")

2.   Allowing Access . . . Using NLLBP.

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent 1, 7, 11 '147 Patent 1, 6, 10, 14, 21, 28, 34	**Allow Access** Permit or enable communication to read or write data. **Native Low Level Block Protocol(s)** A set of rules or standards that enable computers to exchange information and do not involve the overhead of high level protocols and file systems typically required by network servers.	**Allow(ing) Access...to the Storage Devices Using Native Low Level Block Protocol(s)** Permit(ting) reading and writing of data in the native low level, block protocol of the storage device, without involving network servers, Ethernet networks, higher-level protocols such as TCP/IP, Ethernet protocols, network protocols or file system protocols, or translation from one protocol to another.[8]

While Crossroads proposes construing "allow access" and "NLLBP" separately and Defendants propose construing them together, a comparison of the parties' proposed constructions reveals that there is little disagreement over what it means to "allow access." The real dispute is over what it means to "allow access . . . *using* NLLBP." (emphasis added).

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[8] Defendants propose identical constructions for Allow(ing) Access...to the Storage Devices Using Native Low Level, Block Protocol(s); Allow(ing) Access...to (the) (Remote) Storage Device(s) Using Native Low Level, Block Protocol(s); Control Access...to the (At Least One) (Remote) Storage Device [...] Using Native Low Level, Block Protocol(s); and Implement Access Controls...Using Native Low Level, Block Protocol. Fore Decl., ¶11, Ex. J, Defendants' Joint Proposed Claim Constructions.

Crossroads' proposed construction adopts this Court's prior constructions and is consistent with the requirement of the patent that NLLBPs are "used" to "allow access," which means using the NLLBP *received at the storage router* from the workstation. Fore Decl. ¶16, Ex. N, pp. 16-19. The '035 Patent is clear that NLLBPs are used *by and at the storage router* to allow access. Abstract; Col. 2, ll. 12-15; Col. 2, ll. 24-27; Col. 3, ll. 59-63; Col. 3, ll. 51-53; Col. 4, ll. 2-6, Col. 5, ll. 1-5; Col. 9, ll. 28-31; Col. 10, ll. 9-11). The specification describes the supervisor unit within the storage router as processing the NLLBP requests from the workstation to allow workstations to access storage permitted storage. Col. 5, ll. 11-17; Col. 5, ll. 24-27. Thus, the phrase "allow(ing) access . . . using NLLBP" clearly refers to the internal use of the NLLBP by and at the storage router to permit access. Even more to the point, the claim language itself makes clear that it is the *storage router*, and more particularly, the *supervisor unit* within the storage router, that "uses" the NLLBP to permit or enable access:

1. A **storage router** . . .comprising:
    . . . [a] **supervisor unit** operable to . . . process data in the buffer to interface between the first controller and the second controller **to allow access from devices connected to the first transport medium to the storage devices using native low level, block protocols.**

Claim 1, Col. 9, ll. 13-30 (emphasis added). As Claim 1 of the '035 Patent clearly illustrates, the act of allowing access using the NLLPB is performed *at the storage router.* In particular, the supervisor unit processes data in the buffer "to interface between the first controller and the second controller" in order to allow access using NLLBP. All of these components are *within* the storage router itself. Thus, the phrase "allow(ing) access . . . using NLLBP" clearly refers to "using" the NLLBP internally at the storage router to permit or enable communication.

In contrast, according to Defendants, using an NLLBP to allow access would mean using the NLLBP of *the storage device being accessed . . . without protocol translation.* The '035

Patent introduces and defines the term NLLBP from the perspective of a workstation accessing

local storage; specifically, an NLLBP is what is used by a workstation to access local storage.

See Col. 1, ll. 38-43 (a workstation provides "access to the local storage device through native

low level block protocols.") The invention of the '035 Patent extends this concept of accessing

locally attached storage by providing "virtual local storage" that appears to the workstation as

being local storage with the same characteristics of local storage:

> According to the present invention, **storage router 56 has enhanced functionality** to implement security controls and routing **such that each workstation 58 can have access to a specific subset** of the overall data stored in storage devices 60, 62 and 64. This specific subset of data **has the appearance and characteristics of <u>local storage</u>** and is referred to herein as <u>**virtual local storage**</u>. Storage router 56 allows the configuration and modification of the storage allocated to each attached workstation 58 through the use of mapping tables or other mapping techniques . . . .
>
> These subsets 66, 68, 70 and 72 . . . **appear** to the associated workstation 58 **as <u>local storage</u> accessed using native low level, block protocol.** . . .
>
> The environment of FIG. 3 extends the concept of a single workstation having locally connected storage devices to a storage network 50 in which **workstations 58 are provided <u>virtual local storage</u> in a manner transparent to workstations 58.**

Col. 4, ll. 7-47 (emphasis added). As the specification makes clear, the storage router presents to

the workstations *virtual local storage* that appears to the workstation to be *local storage* in a

manner that is *transparent to the workstation. Id.* Therefore, just as the workstation sends an

NLLBP request to access its local storage, using a storage router in the present invention, the

workstation will similarly send an NLLBP request to the storage router (that looks to the

workstation just like local storage). Levy Decl., ¶36. Thus, the NLLBP "used" by the storage

router to allow access is the NLLBP sent to it from the workstation. Levy Decl., ¶36.

Accordingly, the NLLPB "used" by the storage router to allow (*i.e.*, permit or enable) the

workstation to access remote storage is the NLLBP appropriate for *the virtual local storage,* rather than the NLLBP of the storage device ultimately storing the data.[9] Levy Decl., ¶36.

Furthermore, the specification is clear that a storage router can, contrary to Defendants' proposed construction, translate between the protocol used by the workstations and the protocol used by the storage devices in order to allow access from Fibre Channel workstations to legacy SCSI-2 storage devices and vice versa:

> The storage router serves to **translate** command and status information and transfer data between SCSI-3 FCP and SCSI-2, allowing the use of standard SCSI-2 devices in a Fibre Channel environment.

(Col. 6, ll. 40-44) (emphasis added); *see also,* Col. 6, ll. 52-55 (describing translation of SCSI-2 requests to SCSI-3 FCP requests for a SCSI host-to-FC storage embodiment).[10] Thus, the NLLBP used at the storage router is not, as the Defendants propose, the protocol of any particular storage device ultimately being accessed, but rather the protocol appropriate to access the "virtual local storage" provided by the storage router, which can be translated into the protocol of the storage device if necessary. *See Vitronics Corp.,* 90 F.3d at 1583 (a construction that excludes an embodiment is "rarely, if ever, correct.")

D.   Map/Mapping

Patent Claim Nos.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent	Map/Mapping	Map/Mapping

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[9] This is consistent with the extrinsic evidence defining "native" to be something that is "designed for use in a particular . . . environment" seen by the workstation:

> native: 1. designed for a specific hardware or software environment (rather than for compatibility with something else). Fore Decl., ¶21, Ex. S, Dictionary of Computer and Internet Terms 311 (6th Ed. 1996).

[10] The Fibre Channel FCP transport specification is part of the SCSI-3 family of specifications for transporting SCSI-3 compliant commands. As described in the specification, in order to support FC workstation access to legacy SCSI-2 storage devices, the storage router must translate the FCP encapsulated SCSI-3 commands sent from the host into SCSI-2 commands to communicate with the SCSI-2 storage devices (and vice versa for SCSI workstation access to FC storage devices). Levy Decl., ¶38, Ex. D. These embodiments make clear that the NLLBP used by the workstation to access the "virtual local storage" presented by the storage router does *not* need to be the same protocol ultimately used by the storage device.

1, 7, 10, 11, 12 **'147 Patent** 1, 6, 9, 10, 14, 15, 16, 17, 21, 22, 23, 24, 28, 29, 30, 31, 34, 35, 36	To create a path from a device on one side of the storage router to a device on the other side of the router. A "map" contains a representation of devices on each side of the storage router, so that when a device on one side of the storage router wants to communicate with a device on the other side of the storage router, the storage router can connect the devices.	Create(e)(ing) a map that defines a path from a device on one side of the storage router to LUN of a storage device on the other side of the router. A "map" is a table physically resident on the storage router that contains a representation of devices on one side of the router and LUNs of storage devices on the other side of the router and defines a path to connect a particular device with a particular LUN of a storage device assigned to the device.

Crossroads' proposed construction of "map/mapping" is consistent with the construction of "map/mapping" adopted by this Court in both the *Chaparral* Litigation and the *Dot Hill* Litigation. Fore Decl., ¶14, Ex. L, Crossroads *Chaparral* Markman Order at 12; ¶15, Ex. M, *Dot Hill* Stipulated Definitions of Claim Terms, at 3. The Parties agree that a "map" is used to create a path from a device on one side of the storage router to a device on the other side of the storage router, and that a map "contains a representation" of both the devices on one side of the router and the storage devices on the other side of the router. Defendants, however, improperly attempt to limit the representation of the storage device to "a **LUN** of a storage device" so that the map "defines a path to connect a particular device with a particular **LUN** of a storage device assigned to the device." (emphasis added). Additionally, Defendants seek to add the unsupported limitation that a "map" is "a table physically resident on the router."

1. Crossroads' Proposed Construction Is Supported.

Crossroads' proposed construction is fully supported by the specification, which describes that "mapping" defines for each host what storage is available to that host, so that host devices can be connected to allocated storage. Col. 2, ll. 7-14, 19-25; Col 4., ll. 13-17; Col. 8, line 60-Col. 9, line 3; *see also* Fore Decl., ¶20, Ex. R, Crossroads' *Postvision* Markman Brief p. 15, and Fore Decl., ¶13, Ex. K, Crossroads' *Chaparral* Markman Brief, pp. 22-23. The phrase

"to map" creates a map that includes representations of the hosts and storage devices to cause requests from hosts to be directed to the correct storage. *See* e.g., Col. 4, ll. 38-42; Col. 5, ll. 50-53; Col. 7, ll. 5-13, Col. 8, ll. 60-66.   Accordingly, the Court determined that Crossroads' proposed construction ("both as a verb and a noun") is supported by the specification, stating "the specification language cited by the plaintiff supports its construction of the term 'map'...." Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order at 12.

2.   Defendants Impermissibly Import Examples Into The Claims.

Defendants propose the map must be "a table physically resident on the router" and that the representation of the storage device in the map must be a "LUN."   However, both of these limitations simply represent examples of what form the map can take and what the map can contain and are not appropriate limitations on the broad term "map."

As to the "map" being a "table physically resident on the router," Defendants seek to improperly incorporate additional language into the definition of "map" from the reexamination of the '035 Patent based on a unilateral statement by the Examiner. As mentioned above, during the *Dot Hill* Litigation, the '035 Patent underwent reexamination at the USPTO during which Crossroads distinguished the claims of the '035 Patent over a number of prior art references.[11] Crossroads provided this Court's claim constructions adopted in the *Dot Hill* Litigation to the USPTO, including the Court's construction for "map/mapping," and framed its arguments in its replies to these office actions using those constructions. *See* Fore Decl., ¶¶6, 8, Exs. E, G, April

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[11] In the first Office Action dated Feb. 7, 2005, the Examiner rejected the claims of the '035 Patent primarily in view of <u>Petal: Distributed Virtual Disks</u> ("Petal"). Fore Decl., ¶31, Ex. CC. In a second Office Action dated May 24, 2005, the Examiner rejected the claims of the '035 Patent over United Kingdom Publication No. GB 2297636 ("Spring") in view of United States Patent No. 5,634,111 ("Oeda"). *See* Fore Decl., ¶¶7, 8, 29-30, Exs. F, G, AA, & BB. Crossroads successfully overcame both of these rejections in a first Reply to Office Action dated April 6, 2005 and in a second Reply to Office Action dated July 22, 2005, respectively. Fore Decl., ¶6, 8, Exs. E &G.

6, 2005 Reply, pp. 8, 9, 12, 14 and Ex. A; July 22, 2005 Reply, p. 17, 22 - 23, 29, Ex. A and Ex.

B).

At the conclusion of Reexamination, the Examiner stated in his Reasons for

Patentability/Confirmation of '035 Patent claims:

> The prior art . . . fail to teach or suggest . . . all the limitations of the independent claims (1, 7, and 11), particularly the *map/mapping feature* which is a one-to-one correspondence, *as given in a simple table, the map physically resident on a router*, whereby the router forms the connection between two separate entities over different transport mediums, such that neither entity determines where data is to be sent, but rather, the router solely dictates where the data will be sent.

Fore Decl., ¶9, Ex. H, Examiner's Reasons For Patentability/Confirmation. Though obviously

trying to do so, Defendants cannot use the Examiner's statement to limit a map to "a table

physically resident on a router." As recognized by both the courts and the USPTO, under the

doctrine of prosecution disclaimer, *only the patentee, not an examiner*, may limit the meaning

of a claim term by making a clear and unmistakable disavowal of scope during prosecution. *See*

Seachange Int'l, Inc. v. C-COR, Inc., 413 F.3d 1361, 1372-73 (Fed. Cir. 2005); *Omega Eng'g,*

Inc. v. Raytek Corp., 334 F.3d 1314, 1323-26 (Fed. Cir. 2003); *see also, Salazar v. Procter &*

Gamble Co., 414 F.3d 1342, 1345 (Fed. Cir. 2005) (an Examiner's Statement of Reasons for

Allowance does not limit claim unless applicant's own arguments during prosecution constitute

clear disavowal of claim scope); USPTO Manual of Patent Examining Procedures, R8 §1302.14

("the examiner's statement should not create an estoppel. Only applicant's statements should

create an estoppel.") Crossroads made no such disavowal of scope and never stated that a "map"

must be a "table physically resident on the router."   Indeed, Crossroads filed a response to the

Examiner's Statement in which Crossroads expressly disagreed with any characterization of the

claims that were "inconsistent with the claim language, specification or prior prosecution

history." Fore Decl., ¶10, Ex. I, Comments on Statement of Reasons for Patentability and/or

Confirmation, p. 1.

Furthermore, while a "table" may be an example of a map, an interpretation that limits a map to a single table is inconsistent with the specification. The specification describes the use of "mapping tables or **other mapping techniques.**" Col. 4, ll. 13-16 (emphasis added); *see also,* Col. 4, ll. 38-42 ("mapping tables"); Col. 9, ll. 1-3 ("router can use tables to map...") (emphasis added). Thus, a map may be implemented through *multiple* tables or *other mapping techniques all together. See Intervet Inc. v. Merial Ltd.,* 617 F.3d 1282, 1287 (Fed. Cir. 2010) ("Construing the claims in light of the specification does not...imply that limitations discussed in the specification may be read into the claims. It is therefore important not to confuse exemplars or preferred embodiments in the specification that serve to teach and enable the invention with limitations that define the outer boundaries of claim scope.") This Court has historically declined to limit constructions of claim terms to examples not recited in the claims:

> Figure 3 is meant to be an example of how plaintiff's claimed invention can be implemented, and the specification clearly describes this figure as illustrating one implementation of the claimed invention. Adopting defendant's argument would ignore a fundamental principle of claims construction . . . that the specification is "the single best guide to the meaning of a disputed term."

Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order at 4 (citing *Vitronics,* 90 F.3d at 1582).

Similarly as to "LUN," while Crossroads acknowledges that a "LUN"[12] is an example of how storage can be represented in the map, it is only one such example of how storage can be represented in the map.[13] Defendants seek to limit the "representation" of the storage to only "LUNs" despite the fact that none of the claims of the '035 Patent and none of the independent

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[12] LUN is an acronym for "logical unit number," which is a number that identifies storage space on storage devices. *See* Section L below.

[13] For example, a SCSI storage device can be represented by a virtual disk identifier. *See* Fore. Decl., ¶22, Ex. T, Edward K. Lee and Chandramohan Thekkath, Petal: Distributed Virtual Disks, 85-86, 88 ASPLOS VII 10/96 (1996). *See also,* Levy Decl., ¶41 (describing a number of other "representations" of storage that could be used in the map).

claims of the '147 Patent require the use of LUNs for *any* purpose, let alone mapping. In the specification, the patent does provide an example of representing the SCSI storage as a "LUN":

> Using configuration settings, the storage router can make the SCSI bus devices available on the Fibre Channel Network as FCP **logical units**.

Col. 5, ll. 50-53 (emphasis added). However, this is simply an example of how SCSI storage devices could be represented in the map (e.g., as "logical units" or "LUNs") and, as such, cannot be used to limit the broad term "map" where such example is not in the claim language itself. *See Intervet*, 617 F.3d at 1287.

This Court has also expressly rejected limiting storage devices based on an example of LUN addressing in the specification. In the *Chaparral* Litigation, the defendants argued that SCSI storage devices of the '972 Patent were storage devices having "a unique BUS:TARGET:LUN address." The Court recognized that the BUS:TARGET:LUN addressing scheme "is only one example of how the SCSI storage device addressing scheme 'can' be implemented." Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order, p. 10. Accordingly, the Court refused to "impermissibly . . . limit the claim language to an example given in the specification." Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order, p. 10.

E.   Connected To/Connects

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent 1, 2, 3, 5, 6, 7, 10, 11, 12, 13 **'147 Patent** 1, 5, 6, 9, 10, 14, 18, 21, 28, 34	**Connected To/Connects** Does not require construction; if the Court deems construction necessary: Attach(ed)(es) directly or attach(ed)(es) indirectly through intervening components.	**Connected To/Connects** Attach(ed)(es) directly rather than through intervening devices.

This Court has not previously adopted or required a construction of the term "connect" and Crossroads agrees that a juror can reasonably understand what the word "connect" means.[14] Defendants' proposed construction introduces the unsupported limitation of "directly attached" without any recitation of "directly" in the claims and opposing description in the specification.

Claim 1 of the '035 Patent recites "a first controller operable to **connect** to . . . a first transport medium" and "a second controller operable to **connect** to . . . a second transport medium." '035 Patent, Col. 9, ll. 17-20 (emphasis added). Defendants' proposals would require these be "directly" attached with no intervening devices. However, this restriction is not supported by the use of "connected" in the specification. In fact, when the inventors of the '035 Patent wanted to specifically indicate a *direct* connection, they expressly used the term "direct." *See*, Col. 4, ll. 35-36 ("management station 76 can connect **directly** to storage router 56 via a **direct connection**"); Col. 6, ll. 27-28 ("**direct** SCSI connection") (emphasis added). The inventors, however, did not modify "connect" with the word "direct" in the claims. Furthermore, in the specification, the inventors specifically described an embodiment where the first controller is *indirectly* connected to the first transport medium through an intervening component. The specification describes that one implementation of a storage router can include a Tachyon HPFC-5000 Fibre Channel controller and a "GLM media interface." Col. 6, ll. 3-6. As understood in the art, the GLM (Gigabaud Link Module) media interface would necessarily reside between the

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[14] If the Court deems it necessary, Crossroads' proposed construction is "attach(ed)(es) directly or attach(ed)(es) indirectly through intervening devices." The extrinsic evidence supports that connected means joined or linked, but does not require a direct attachment:

> connected: 1. joined or linked together. Fore Decl., ¶26, Ex. X. Webster's Ninth New Collegiate Dictionary 278 (1990).
> connected: 1. to join or fasten together, usu by some intervening thing; 2.to place or establish in relationship. Fore Decl., ¶27, Ex. Y, Longman Dictionary of English Language 337 (2ᵈ ed. 1991).

However, Crossroads does not believe this Court has an obligation to provide a construction for the well-understood term "Connected to/Connects." In fact, this Court has dismissed the need to interpret commonly understood terms historically, stating that "'interface' has a standard and ordinary meaning-even to a federal judge-and this court will not further define it." Fore Decl., ¶14, Ex. L, Chaparral Markman Order pp. 13 - 14.

HPFC-5000 Fibre Channel controller (i.e., controller 80 of Figure 5) and the Fibre Channel

transport medium (52). *See* Levy Decl., ¶¶42-43, Ex. E. *Vitronics Corp.*, 90 F.3d at 1583

(construction excluding an embodiment is "rarely, if ever, correct.")

F.   First Transport Medium/Second Transport Medium

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent 1, 2, 3, 5, 6, 7, 10, 11, 12, 13	**First Transport Medium** A first communications link. **Second Transport Medium** A second communications link.	**First Transport Medium** Fibre Channel. **Second Transport Medium** A second transport medium that is different than the first transport medium.

Crossroads' proposed constructions, as previously adopted by this Court, are supported

by the specification, which generally refers to the communications links between devices as

transport media. *See* '035 Patent, Col. 2, ll. 5-7 (referencing "a Fibre Channel transport medium"

and "a SCSI Bus transport medium"); Col. 3, ll. 9-11 (referencing a "network transport

medium.") Conversely, Defendants' constructions requiring the first transport medium to be

"Fibre Channel" and the second transport medium to be "different" from the first are in direct

conflict with the specification.

The "first transport" in the '035 Patent connects the storage router to the *hosts*. *See*

Claim 1 (reciting "**devices** connected to the first transport medium") (emphasis added). The

'035 Patent specifically describes a "SCSI-to-FC" embodiment in which the initiators (hosts) are

attached to the SCSI bus (the "first transport") and the targets (e.g., storage devices) are

connected to the Fibre Channel transport medium (the "second transport.") Col. 6, ll. 19-23, 45-

55. Yet, Defendants' construction requiring the *first transport* to be fibre channel would read out

of the patent this SCSI-to-Fibre Channel embodiment where the first transport is a SCSI bus.

Vitronics Corp., 90 F.3d at 1583 (construction that excludes an embodiment is "rarely, if ever,

correct.") As to the Defendants' construction that the "second transport medium" be "different" from the first, the '035 specification includes a "FC-FC" embodiment where, obviously, the first and second transport mediums are the same. Col. 6, ll. 19-23, 25-31. *Id.* In fact, the claims of the '147 Patent are specifically directed to the FC-FC embodiment.   Defendants' proposed construction of the second transport being "different" than the first transport would not only read these embodiments out of the specification, but would impossibly conflict with the express language of the independent claims of the '147 Patent. *See, e.g.,* '147 Patent, Claim 14, Col. 11, ll. 8 - 15. *Z4 Tech., Inc. v. Microsoft Corp.,* 507 F.3d 1340, 1348 (Fed. Cir. 2007) (rejecting construction because the "language of the claims does not reasonably or logically permit such a construction.")

G.   Buffer

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent 1, 5, 6, 10 **'147 Patent** 1, 5, 9	**Buffer** A memory device that is utilized to temporarily hold data.	**Buffer** A region of memory managed by a client process to temporarily hold data until retrieved by the same or other process, without necessarily preserving the data for multiple reads.

Crossroads' proposed construction of "buffer" is consistent with this Court's historical constructions and the specification. *See* Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order, p. 15; ¶15, Ex. M, *Dot Hill* Stipulated Definitions of Claim Terms, p. 1. The specification states that the buffer "provides memory workspace" and holds data. Col. 5, line 10, ll. 21-29.[15] In contrast, Defendants' proposed construction has no support in the specification as the terms

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[15] The extrinsic evidence further supports that the term "buffer" is used generally to refer to memory that temporarily holds information:

> buffer: a unit of memory given the task of holding information temporarily, especially while waiting for slower components to catch up. Fore Decl., ¶23, Ex. U, Que's Computer & Internet Dictionary 64 (6th ed. 1995).

"managed by a client process" and "without necessarily preserving the data for multiple reads"

never appear in the Patents-In-Suit.[16]

H.   Devices

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent 1, 2, 3, 10, 11, 12, 13 '147 Patent 1, 2, 3, 9, 10 - 12, 14 - 16, 18, 19, 21 - 23, 25, 26, 28 - 30, 32, 33	**Devices** Any type of electronic device including, but not limited to, workstations.	**Devices** Computer(s).

Once again, Crossroads' construction is identical to that adopted by this Court

historically and is consistent with the specification. *See* Fore Decl., ¶15, Ex. M, *Dot Hill*

Stipulated Definitions of Claim Terms, p. 1. The term "device" in the specification encompasses

a variety of electronic devices including workstations, other computing devices, management

stations, initiator devices, target devices, servers, and even tape devices acting as initiators. *See*

e.g., Col. 6, ll. 45-55; Abstract and Col. 2, ll. 4-6 ("Fibre Channel devices, such as

workstations"); Col. 1, ll. 21-24; Col. 1, ll. 53-56 ("workstation or other computing device");

Col. 3, ll. 3-6 ("input/output devices"); Col. 3, ll. 41-43 ("initiator devices" and "target devices");

Col. 4, ll. 38-42 (management station can be "workstation or other computing device.")[17] Thus,

"device" should not be limited to "computer" as proposed by Defendants.

Moreover, a "computer" will quite likely have the connotation of a desktop or laptop

computer to the layperson (e.g., typical juror). The '035 Patent does not so limit the use of the

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[16] Moreover, the terms "managed by a client process" and "without necessarily preserving the data for multiple reads" are not readily understandable without further construction. Levy Decl., ¶44.

[17] The extrinsic evidence further supports this view:

    device: a mechanical, electrical or electromechanical contrivance or appliance used in reference to peripherals such as printers, CRTS and disk drives. Fore Decl., ¶25, Ex. W, The McGraw-Hill Illustrated Dictionary of Personal Computers 126 (4th ed. 1995).

word "device," and as described above can be used to describe any number of computing or initiator devices beyond simply desktop or laptop computers. Where a term in a proposed construction has a connotation that may be misleading, the term should be rejected. *See USA Video Tech. Corp. v. Time Warner Cable, Inc.*, No. 2:06-CV-239, 2007 WL 4365773, at *12 (E.D. Tex. Dec. 12, 2007) (holding that the term "call" was inappropriate because the jury would be "naturally inclined to assume 'call' and 'telephone call' are synonymous, when they clearly are not in this case.")

I. Storage Device(s)

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent 1, 4, 7, 9, 10, 11, 12, 14 **'147 Patent** 1, 4, 6, 8, 9, 10, 13-15, 17 - 19, 21, 22, 24 - 26, 28, 29, 31 – 38	**Storage Device(s)** Any storage device, including, for example, a tape drive, CD-ROM drive, an optical drive or a hard disk drive.	**Storage Device(s)** A device such as a disk drive, tape drive or CD-ROM drive that uses magnetic or optical media to store data in a non-volatile manner.

Crossroads' proposed construction of "storage devices" is derived directly from the construction of "SCSI storage devices" by the Court in the *Chaparral* Litigation (and later adopted in the *Dot Hill* Litigation). *See* Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order, p. 15 (construing "SCSI storage devices"); ¶15, Ex. M, *Dot Hill* Stipulated Definitions of Claim Terms, p. 2. The '035 Patent broadly describes that storage devices can include "a disk drive, tape drive, CD-ROM drive or other storage device." Col. 1, ll. 36-38. Defendants' proposed construction seeks improperly to limit the meaning of storage device to certain specific examples, but ignoring the inventors' "or other storage device" statement.[18] *Intervet Inc.*, 617

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[18] Storage devices using media other than magnetic or optical media were available prior to the date of the '035 Patent, including, for example, solid state drives. Levy Decl., ¶45.

F.3d at 1287 (courts should not confuse "exemplars or preferred embodiments" with "the outer boundaries of claim scope.")

J.   Initiator Device/Fibre Channel Initiator Device

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'147 Patent 1, 10	**Initiator Device** A device that issues requests for data or storage.	**Fibre Channel Initiator Device** A computer that issues a command on a Fibre Channel bus using Fibre Channel protocol.

Because the parties have agreed to a construction of Fibre Channel, Crossroads maintains that only "initiator device" needs construction. Crossroads' proposed construction is identical to the previously adopted construction of "initiator device," which is consistent with the use in the specification of the term "initiator device" to generically refer to a device that is requesting access to a target device (e.g., the "Storage router 44 routes requests from initiator devices on one medium to target devices on the other medium and routes data between the target and the initiator.") Col. 3, ll. 41-43; Col. 6, ll. 19-57; Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order, p. 16.   Defendants' construction once again improperly attempts to limit "initiator devices" to "computers" and, by implication, the first transport to a "Fibre Channel bus" and fails for the reasons discussed above. *See* Section H above and Section F above, respectively.

K.   Workstation(s)

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'035 Patent 3, 7, 8, 10, 13 '147 Patent 3, 6, 7, 9, 12	**Workstation(s)** A remote computing device that connects to the first (Fibre Channel) transport medium, and may consist of a personal computer.	**Workstation(s)** A computer including human input/output devices such as a display and keyboard and designed for use by one person at a time.

Crossroads' proposed construction of workstation is consistent with the construction adopted by every party in the *Dot Hill* and *Chaparral* litigation. *See,* Fore Decl., ¶14, Ex. L,

Chaparral Markman Order, p. 16; ¶15, Ex. M, *Dot Hill* Stipulated Definitions of Claim Terms, p. 2. The '035 Patent specifically defines a workstation as a "computing device." Col. 4, ll. 39-41 (referring to the management station as "a workstation or other computing device.") The extrinsic evidence further supports that the term "workstation" is used broadly in the art to refer to a variety of systems and therefore, should be construed broadly.[19]

L.   LUN

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'147 Patent 16, 23, 30	LUN A number identifying storage space on storage device(s).	LUN A number identifying a storage device or a section of a storage device.

LUN is an acronym for "logical unit number" and is well known in the storage art as a number that can identify storage space on storage devices. A logical unit number identifies a physical or virtual storage device (e.g., disk drive) addressable at a target and can correspond to a single device storage device, multiple storage devices or portions of storage devices. *See* Levy Decl., ¶39, Ex. C. In fact, the '035 Patent describes that a LUN can be used to identify storage space on the storage devices that is available to an initiator. Col. 8, ll. 64-66 ("the same request for LUN 0 (local storage) by two different FC initiators can be directed to two separate subsets of storage.")

M.   Indefinite Terms: Defendants' Allegations Of Indefiniteness Are Unfounded.

Defendants maintain that a number of claim terms are indefinite. To overcome the statutory presumption that a patent's claims are valid, Defendants must prove invalidity due to

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[19] Workstation is understood to be a broad term in the art as supported by extrinsic evidence:
> workstation: in general a combination of input, output, and computing hardware that can be used for work by an individual. Most often, however, the term refers to a powerful stand-alone computer of the sort used in computer-aided design and other applications requiring high-end, usually expensive machines ($10,000 to $100,000) with considerable calculating or graphics capability. Sometimes, workstation is used to refer to a microcomputer or terminal connected to a network. Fore Decl., ¶28, Ex. Z, Microsoft Press Computer Dictionary 368 (1991).

indefiniteness by clear and convincing evidence. *See Green Edge Enters., LLC v. Rubber Mulch Etc.,* LLC, 620 F.3d 1287, 1299 (Fed. Cir. 2010). To establish that a claim is indefinite, a party must show (by clear and convincing evidence) that "one of ordinary skill would not understand what is included" within the claims. *N. Am. Vaccine, Inc. v. Am. Cyanamid Co.,* 7 F.3d 1571, 1579 (Fed. Cir. 1993). If a claim "can be given any reasonable meaning," it is not indefinite. *Young v. Lumenis, Inc.,* 492 F.3d 1336, 1346 (Fed. Cir. 2007); *Crane Co. v. Sandenvendo America, Inc.,* No. 2:07-CV-42-CE, 2009 WL 1586704 at *11 (E.D. Tex. June 5, 2009) ("An issued claim is ...not indefinite unless it is 'insolubly ambiguous, and no narrowing construction can be adopted.'") The terms that follow can be given reasonable meanings that can be understood by one of ordinary skill in the art, are not "insolubly ambiguous" and, as such, are not indefinite.

1.   Configuration/Maintain(ing) A (The) Configuration.

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'147 Patent 1, 2, 9, 10, 11, 15, 17, 22, 24, 29, 31, 34, 35, 36	**Maintain(ing) a (the) Configuration** Keep(ing) a modifiable setting of information.	**Configuration/Maintaining a Configuration** "Map"; otherwise indefinite / Does not need to be separately construed.

In the *Chaparral* Litigation the parties were able to construe the phrase "maintain a configuration" to have a reasonable meaning of "keeping a modifiable setting of information." Fore Decl., ¶14, Ex. L, *Chaparral* Markman Order, p. 16. In fact, this construction is supported by the specification, which describes the configuration as information used to control operation of the storage router (including mapping) and that is modifiable. *See, e.g.,* Col. 2, ll. 19-23; Col. 5, ll. 53-54; Col. 6, ll. 58-64.[20]

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[20] A person of ordinary skill in the art reviewing the claim in context of the patent specification would have no trouble understanding that the phrase "maintaining a configuration" as used in the '035 Patent refers to "keeping a modifiable set of information." Levy Decl., ¶46.

2.   **Contained In The Map.**

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'147 Patent 35	Contained in the Map All parties have provided constructions of "Map." "Contained in" does not need further construction.	Contained in the Map Indefinite.

Defendants assert that "contained in the map" is indefinite. Yet, Defendants propose a construction for "map," so presumably Defendants are taking the position that "contained in" is "insolubly ambiguous" (despite the fact that Defendants' construction states the map "contains" representations of devices and LUNs of storage devices). Fore Decl., ¶33, Ex. EE. Crossroads maintains that the meaning of "contained in the map" is reasonably understandable without further construction.[21]

3.   **Representation.**

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'147 Patent 15, 22, 29	Representation Does not require construction.	Representation Indefinite.

Representation is a common English word that has a plain and ordinary meaning of "one that represents." Fore Decl., ¶26, Ex. X, p. 1000. For example, LUNs can represent storage devices. Col. 8, ll. 52-55. Defendants once again acknowledge that the term "representation" is readily understandable to a jury by incorporating the term "representation" in their definition of "map."[22]

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[21] A person of ordinary skill in the art reviewing the claim in context of the patent specification would have no trouble understanding that the phrase "contained in the map" refers to storage space represented in the map. Levy Decl., ¶47.

[22] A person of ordinary skill in the art reviewing the claim in context of the patent specification would have no trouble understanding that the term "representation" has its plain and ordinary meaning. Levy Decl., ¶48.

4. Virtual LUNs/Virtual Representation.

Patent Claim No.	Crossroads' Proposed Construction	Defendants' Proposed Construction
'147 Patent 15, 22, 29, 35	**Virtual LUN** A LUN used to represent virtual local storage. **Virtual Representation** A representation of virtual local storage.	**Virtual LUN** Indefinite. **Virtual Representation**[23] Indefinite.

The '035 Patent describes two types of LUNs. The first is the LUN of a physical storage device, such as used in BUS:TARGET:LUN addressing. Col. 8, ll. 35-36; Levy Decl., ¶49. The second type of LUN is used to present virtual local storage to the Fibre Channel initiator devices. *See*, '035 Patent, Col. 5, ll. 50-53 (describing that "the storage router can make the SCSI bus devices available on the Fibre Channel network as FCP logical units.") This second type of LUN used to represent virtual local storage is a "virtual LUN." Levy Decl., ¶49. A "virtual representation" is whatever representation is used to represent the virtual local storage without being limited to a LUN.[24] Neither "virtual LUN" nor "virtual representation" is "insolubly ambiguous," and the Court should adopt Crossroads' proposed construction.

III. CONCLUSION

For the reasons provided herein, Crossroads respectfully requests the Court adopt Crossroads' proposed constructions.

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[23] Defendants have also asserted that the term "maps from the host device to a virtual representation of at least a portion of the storage space on the storage device to the storage device" is indefinite. Crossroads maintains that this phrase does not need construction separate from the component parts.

[24] A person of ordinary skill in the art reviewing the claim in context of the patent specification would have no trouble understanding that the phrase "virtual LUN" refers to "a LUN used to represent virtual local storage" and the phrase "virtual representation" refers to "a representation of virtual local storage." Levy Decl., ¶49.

Dated: *February 22*, 2011   Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on the 22nd day of February, 2011, I traditionally filed the foregoing with the Clerk of the Court which will send notification of such filing to the following:

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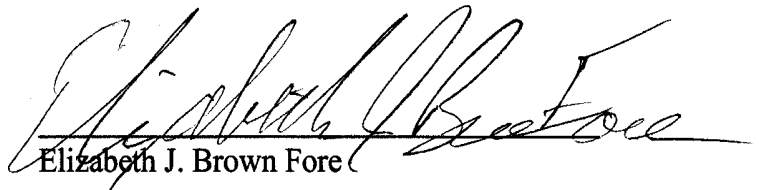
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and I hereby certify that I have sent true and correct copies of the foregoing via E-Mail, pursuant to the parties' agreement, to all counsel of record listed above.

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UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

CROSSROADS SYSTEMS, INC.   §
                            §
vs.   § CIVIL NO. A-10-CV-652 SS
                            §
3PAR, INC., et al   §

SLIP SHEET

FOR

Appendix to Plaintiff's Markman Brief

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